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# Towards Strategic Outsourcing of Core Competencies in the Automotive Industry: Threat or Opportunity?

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## Abstract:

Faced with shorter product lifecycles and increased cost of capital, companies can no longer afford the capital outlay for new facilities which may become underutilised as processes improve over the first few years of operation. Outsourcing production capacity can remove this uncertainty. However, in the fast-moving automotive environment companies, faced with an increasingly demanding customer, have to deploy the resources and expertise of the best-in-class provider. To achieve this they have further reduced their functions to a handful of core activities. Outsourcing core activities can bring about benefits under certain circumstances, but also poses the risk that companies may become ‘hollow’, lacking a core deliverable. Within the next couple of years, companies in the automotive sector will further outsource activities in order to free up investment capital. The trends and areas of outsourcing have been explored and a guiding framework has been developed for practitioners.

**Keywords:** strategic outsourcing, core competencies, RBV, TCE

## Biographical Notes:

Dr Glenn Parry is a Senior Fellow at the University of Bath’s School of Management and is part of the Core team for the ILIPT EU Automotive project and Theme III leader. His research is industrially focused and interests include ‘servitisation’, costing, lean processes, core competence and a 5 year study into ERP software management.

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## 1. Introduction

Capital is becoming a scarce resource and companies are increasingly focussing on removing waste from their processes, eliminating non-value adding activity, maximising the utility of their own assets and outsourcing inefficient activities. Whilst the lack of availability of capital is a relatively new business driver, the management practice of outsourcing a companies’ core and supporting activities in a variety of business functions has been a focus of attention during the past decade. Apart from the growing volume of literature describing various facets of outsourcing, the consultancy business welcomes outsourcing as a weapon to fight with in a competitive marketplace as well as to focus business strategy.

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With the emergence of global fast changing markets, shorter product life-cycles combined with a whole-life costing approach, companies are facing strong pressures on their competitiveness and profitability (Parry and Graves, 2008). Customers are demanding greater levels of customisation of a product and service, whilst high quality and delivery performance linked to low prices have become an order qualifier (Oakes and Lee 1999; Walter 2003). As a consequence, companies have to constantly evaluate and improve organisational adaptability and competitiveness. This perspective emphasises the need for managers to consider outsourcing, among several other practices, in order to sustain a company's competitive advantage over its rivals.

Outsourcing involves transferring a company's activities to external providers who possess expertise, innovative technologies and specialised resources to perform activities efficiently (Roehrich, 2008). The concept of outsourcing may bring about benefits to the outsourcing company which are vital for its competitive market position. Calabrese and Erbetta (2005) argue that strategic outsourcing positively impacts on a company's growth rate and should be seen as a key condition for growth in the automotive industry. Indeed, there has been an increase in the amount of value adding work outsourced (Holweg, 2008).

However, outsourcing has progressed from involving only peripheral business activities towards embracing critical core activities that contribute to a company's competitive advantage. Managers in the customer-conscious automotive market have to thoroughly understand the concept and the associated risks in order to benefit from outsourcing practice (Roehrich, 2008). In developing closer supplier relationships that facilitate outsourcing the exchange of proprietary information becomes more likely and hence also the potential loss of core competences (Parry et al, 2006). As a result, outsourcing has become an increasingly complex and vital issue for many organisations, offering significant benefits whilst posing potential future risks. Therefore, this article seeks to explore to what extent OEM manufacturers in the automotive industry strategically outsource core competencies to achieve competitive advantage.

This paper is organised as follows. Section 2 draws on different theoretical positions delivering a description and comparison of the different theoretical approaches to outsourcing and core competence. The operationalization of theory is presented in the third section where two in-depth case studies, conducted with leading German automotive manufacturers, are presented,. Section 4 illustrates the empirical findings from OEM manufacturers in the automobile sector. The final section presents the main conclusions and implications for further research.

## **2. A framework for analysing strategic outsourcing and core competencies**

To gain a greater understanding of the context of outsourcing decisions it is important to explore the underlying concepts. Outsourcing has been defined in various ways by practitioners and academics. The following provides a brief overview of the development and key academic concepts involved.

### **Defining the concept of strategic outsourcing**

In its generic form, outsourcing has been used to frame the 'make-or-buy' decisions of firms (Loh and Venkatraman 1992). In the supply management literature, it has been suggested that outsourcing is an abbreviation for "outside resource using" (Arnold 2000, p. 23); a firm utilizes the resources outside organizational boundaries to create value. Lei and Hitt (1995, p. 836) referred to it as "the reliance on

external sources for manufacturing components and other value-adding activities". Seen from the view of strategic flexibility, outsourcing is just one way in which the boundary of an organisation can be adjusted in response to changing global markets. It might concern either a firm's primary supply chains or its supporting activities (Lonsdale and Cox, 2000). With regard to the growing interdependence of companies, a strategic flexibility perspective becomes increasingly important for a single firm. Recognising the discussion about core competences in an organisation, Sharpe (1997, p.538) defines outsourcing as "*turning over a part or all of those functions that fall outside the organisation's chosen core competencies to an external supplier whose core competencies are the functions being outsourced*".

### The resource-based view (RBV)

RBV understands the firm's resources as the foundation for its strategy. Focusing on internal resources and competencies to develop organisational capabilities in order to achieve a distinctive competence are central to this theory. A firm's competence can be described as "a competitively valuable activity that a company performs better than its rivals [and which] represents a competitively superior resource *strength*" (Thompson et al. 2005, p.91). The resource-based view states that a firm will earn abnormal profits due to their lower cost gained by superior productive resources (Lonsdale 1999). Furthermore, companies can also earn abnormal profits through superior productive capabilities or through product differentiation, enabling the company to provide valued uniqueness and functionality for its customers and charge a premium. However, in order to sustain a competitive advantage in the resource-based view, the company should install protection around its resource position to avoid substitutions and imitations. Rumelt (1987) cited a list of 'isolating mechanisms' including, for instance, buyer switching costs, reputation, producer learning and economies of scale for firms, that are needed to protect a company's favoured market position.

From an outsourcing perspective, another condition to gain abnormal profit is to retain the valuable resources within the firm's boundaries. Williamson (1985) stated that it would be easier for a firm to do so if the resource is 'firm-specific', i.e. that its value diminished outside the firm. Teece (1987) added the notion of 'co-specialised', i.e. it is only valuable if it is used in combination with other resources within a firm, as another condition which keeps valuable resources inside the firm's boundaries. Therefore, the resource-based view proposed that if the firm outsourced certain resources, it will loss control over its strategic core. In other words, the company's competitive position depends on its ability to gain and defend advantageous positions concerning resources important to production and distribution (Wernerfelt 1984, Barney 1991).

### Resource-dependency theory (RDT)

RDT differs from the resource-based view inasmuch as the former focuses on the external environment and not on the internal. Organisations find themselves dependent on some elements in their external environment (Thompson 1967). The external dependency is caused by the firm's limited control over the resources it needs, such as specific parts, products or services, land, labour, capital, and information (Kotter 1979). An internal lack of resources can be overcome by the firm when it enters into exchange relationships with other firms, emphasising the dependency of the firm on its external environment. Therefore, the resource-dependency theory emphasises the need for a company to adapt to environmental uncertainty, to handle problematic interdependences and to oversee resource flows (Pfeffer and Salancik 1978). Cheon et al. (1995) stated that the dependency of a firm on any other organisation, as it occurs in

outsourcing relationships, is determined by the importance of the resource to the organisation, the number of potential suppliers and the cost of switching supplier. In conclusion, a firm's outsourcing strategy consists of different degrees of dependency of one organisation on another in order to acquire critical resources which are not cost effectively available internally.

### Transaction cost economics (TCE)

Introduced by Coase in the 1930s and further developed by Williamson in the mid 1970s, Transaction Cost Economics (TCE) states that the firm's economic activity depends on the balance of production economics against transaction cost. Transactions as the basic unit of analysis are seen as the exchanges of goods or services between economic actors, who are technologically separate units, inside and/or outside the organisation (Williamson 1985, 2008). The success of a firm in the view of that theory depends upon an effective management of transactions.

The transaction cost approach provides, among other benefits, a generic framework for analysing outsourcing options. According to this theory, the choice lies between using an outsourcing provider or providing services in-house (Lacity and Hirschheim 1993). Two different types of costs have to be considered when making the decision between in-house production and outsourcing provider: production and transaction costs. On one hand, smaller production cost can be achieved by the decision to outsource, primarily due to the economies of scale that a provider might have (Cheon et al. 1995). On the other hand, outsourcing leads to higher transaction costs arising from negotiating, monitoring and enforcing contracts. In order to evaluate the decision whether to outsource or not, factors which influence the magnitude of transaction costs should be assessed. Williamson (1985) suggested three influencing factors: asset specificity or the degree to which the transaction will produce an asset that is dedicated to a special purpose; the degree of uncertainty in the environment such as unpredictable markets, technological and economic trends; and infrequency of contracting.

### Core competencies approach

Pralahad and Hamel (1990) heralded the adage that the source of competitive advantage lies in 'core competencies', the set of capabilities that distinguish a firm from its competition, and urged that corporate strategy be aimed at cultivating and harnessing those core competencies. The link between strategy and capabilities is emphasized in the 'Resource Based View' (RBV) of the firm, which originated in the work of Edith Penrose (1959), followed by that of Rumelt (1974), Wernerfelt (1984) and Barney (1991). The move towards capabilities-thinking marked the shift towards strategic outsourcing (Quinn et al. 1990, Quinn and Hilmer 1994), rendering it a management tool, which enables a firm focus on its core competencies (Mullin, 1996). The focal point of the outsourcing decision becomes on sourcing capabilities that supplement existing ones within a firm (Holcomb and Hitt, 2007). Quinn and Hilmer (1994, p. 55) suggested that a firm should outsource the activities which "it cannot be or need not be best". Correspondingly, Venkatesan, (1992), propose that a firm consider both the strategic importance and the firm's capability in outperforming competitors in activities in deciding what to outsource.

Mills et al. (2002) point out that a competence perspective is critical to inform decisions that may alter the boundary of the firm. When a firm's longevity lies in those core capabilities, they are at the heart of the business, and several authors have provided classification for a firm's activities with respect to the core. Quinn (1999, p.12) classifies activities as being (i) core, which a firm possesses a 'best in world' capability in them, and are source of unique value for customers, (ii) non-core but essential, which customers demand and are necessary to defend the core, and (iii) non core. Similarly Arnold (2000)

classified firms' activities into four levels starting from the core towards the periphery: (i) core activities, being connected with a firm's existence, (ii) core close activities that have a direct link to the core, (iii) supporting activities, and (iv) disposable activities that are characterized of general availability.

The opinion of traditional approaches to strategy which state that outsourcing aspects of the core business is risky is supported by many practitioners and academics. Companies may lose their competencies and become hollow (Prahalad and Hamel 1990). Furthermore, negative outsourcing effects can be experienced when competitors are able to steal key aspects of the firm's knowledge base (Bleeke and Ernst 1991). As core activities mostly lie in the area of core competence which are important for the survival of the company, an understanding of the core competence concept is vital. The approach of Prahalad and Hamel (1990) suggests that only goods and services which are considered as core competences should be produced internally. Alexander and Young (1996) highlight the different ways in which the term core is defined by managers. The four meanings of 'core activities' due to Alexander and Young (1996) are (i) activities traditionally performed internally with long-standing precedent, (ii) activities critical to business performance, (iii) activities creating current or potential competitive advantage, and (iv) activities that will drive the future growth, innovation or rejuvenation of the enterprise. Chanaron (2001) identified Toyota's core competencies as concerned with technological and managerial competencies. Integrating thousands of components to be assembled under total quality management and coordinating an integrated system of industrial and commercial subsidiaries are seen core for Toyota.

#### Reconciling different outsourcing approaches

Having provided a brief overview of key theoretical outsourcing concepts it is vital to reconcile the various approaches. Table 1 below collates the four presented approaches.

**[Please INSERT: Table 1 Comparison of outsourcing approaches (adopted from Roehrich, 2008)  
ABOUT HERE]**

### 3. Methods

The data is derived from two case studies with OEM car manufacturers headquartered in Germany. The case study methodology was adopted to provide an in-depth analysis into the phenomena of outsourcing in their real-life setting (Yin, 2003). 16 semi-structured, face-to-face interviews combined with 6 follow-up interviews via phone and 2 site visits were conducted with middle- and senior personnel from multinational OEM car manufacturers headquartered in Germany. The principal criterion for determining whom to interview was the level of knowledge and the direct involvement of the individual interviewee in the outsourcing decisions. The majority of interviewees had at least 2-3 years of work experience in the current position and had been with their company for over 5 years. Interviewees included managers from an array of functions such as IT, Finance, Marketing, Design, Purchasing, HR and Production. Interviews typically lasted from one to two hours and followed an interview guideline consisting of open-ended and theory-driven questions. This data collection approach allowed to follow-up interesting avenues not directly pertaining to the interview. Interview data was then collated with company reports and industry trade reports to strengthen the research validity. The collected data was transcribed, open and axial coded, summarised and displayed in an iterative process. Individual case study reports were sent out to key informants to check data reliability and accuracy.

### 4. Findings

The following section presents the empirical results, considering (4.1) which functions are considered core and which are supporting, (4.2) how close to the core OEM automobile manufacturer outsource activities, and (4.3) a guiding framework for outsourcing decisions based on the interview findings.

#### 4.1 What are core competencies in the automotive industry?

A portfolio of suppliers produces the components and sub-assembles systems that go into the different vehicles. A web of dealers sells, delivers and services the cars bought by consumers. By limiting their focus, automobile companies are able to perform their core activities more efficiently and effectively. Interviewees state that activities such as catering, security or cleaning and maintenance of buildings were completely outsourced to external providers as both companies clearly have no competences and no benefits in carrying out these activities internally.

Empirical data shows that in order to make more resources and funds available for product development, marketing and the ongoing globalisation, car manufacturers are systematically going to outsource more of the value added processes of production and engineering to their suppliers. Core activities are found in the area of product development including design, international marketing, innovation and technology as well as the final assembling of vehicles. Interviewees noted that “another core area is concerned with *engineering activities of the vehicles’ engine and drive train*”. Activities concerned with the IT function are seen by most interviewees as core close activities whereas supporting activities are found in areas such as assembling of parts or systems, design modelling, human resources, finance and accounting, manufacturing and customer services. The following case findings are concentrated on core and close-core business areas reflecting the focus of a company’s vital outsourcing decisions.

#### 4.2 How close to the core do companies in the automobile industry outsource and what are the possible future outsourcing developments?

Empirical findings in this section are presented by business areas for clarification purposes.

##### Production and Engineering

One of the big opportunities for suppliers in the automotive industry is the ongoing disinvestments of automobile manufacturers. In order to provide more resources and investments for product developments and marketing activities, automobile companies systematically outsource more and more of the value added processes of production and engineering to their suppliers. Production of body modules, glass, chassis, seats, drive trains, interiors and the electronics of drive trains and interiors are very common among outsourced parts. The case study companies outsourced the majority of these parts to external providers as they are specialised in each component. A purchasing manager stated that “[...] *drive trains* and its components still remain mostly in-house, as it is seen as one of the company’s core activities”. However, empirical data shows that the majority of car manufacturers will not invest in stampings and pressings in the future. Existing stamping and pressing plants are increasingly sold off to suppliers and any production growth areas are likely to be outsourced. The automobile industry has also seen the growth of a few ‘mega’ suppliers such as Bosch, Magna and Johnson Controls. Interviewees cited that major outsourcing pieces, such as sub-assembling of complete systems, will go to the few mega suppliers that already dominate the automobile supplier market. Smaller suppliers may well move from first tier to second tier level, and might have to find new niches with which they can provide service for the first-tier groups. This means that smaller firms with no specialised skills will have to rethink their organisational structure and positioning. A major trend seen in the German automobile industry leads to near-shore outsourcing of production activities to providers in Eastern Europe. For instance, whole production lines have been outsourced in order to reap cost savings, especially through lower labour costs.

## Design

Another area of core activity is vehicle design. Both companies stated that they outsource several design activities to external providers due to the complexity of vehicle parts. However, a design engineer stated that the design providers are given precise work breakdown instructions. Automobile companies endeavour to retain the innovative parts of car design as it is clearly defined as a core competence. With the supplier's use of 3D modelling software, such as Solid Works, automobile companies "[...] achieve long-term cost effectiveness, ease-of-use and powerful modelling capabilities which are costly to build up in-house" (Designer).

## Logistics

Interviewees mentioned that activities in the logistics area were partly outsourced as well. Case A logistics activities which were outsourced to a certain degree including warehouse management and inventory management. Besides the activities outsourced by case A, the purchasing manager of case B stated that "the company also outsourced distribution management". Interviewees expect a significant rise in outsourcing to external logistics providers within the next couple of years, due to their efficiency and cost savings.

## Information technology (IT)

The majority of IT activities were defined as close to core as companies consider IT activities such as internal software programming as vital for the company's survival. Interviewees stated that "our own employees have more experience and expertise in developing company specific systems in-house than external IT providers have" (IT manager). This was further informed by fears of becoming dependent on the external IT provider and losing important firm specific knowledge. In contrast, activities such as the hardware and application maintenance, documentation development and application support are outsourced to external IT providers. Interviewees from both case companies reported that cost target have not always been realised as some activities needed extensive rework. Companies reported that in future only standardised tasks such as the operation of data processing centres or computer application training will be outsourced.

## Accounting & Finance

One of the fastest growing areas of outsourcing in the automobile sector is accounting and finance given the many benefits it brings about such as realizing baseline savings and increased operational control. A finance manager described "*repetitive, generic finance processes or highly specialist areas requiring higher level analytical thinking are outsourced to external providers*". Automobile company's internal audits, billing processing, revenue accounting, tax processing, asset management and claims administration, all activities previously performed in-house by the finance and accounting department that have been partly outsourced to an external provider. Specialist areas, such as tax planning and compliance, are natural outsourcing targets, whereas budgeting and forecasting were activities considered least suited to outsource. Moreover, where companies have gained confidence in the supplier's practice, even some parts of management reporting are being outsourced. The finance manager states that "*the external provider would directly impact daily sales outstanding, decrease past-due receivables and consequently improve the company's working capital*". Furthermore, the outsourcing provider is responsible for solving invoice discrepancies which enables the company to strengthen the relationship with its customers.

## Human resources

Human resources activities such as selection and recruitment, payroll processing, pension administration and education and training are partly outsourced supporting activities. Activities such as payroll, which



demands little company-specific knowledge and which does nothing to differentiate the company from its competitors, was among the first functions to be outsourced. The HR manager reported that “*assessment centres as parts of the recruitment and the manifold selection process as well as first round interviews are already outsourced to recruitment services provider*”. Recruitment providers deliver the whole or part of the recruitment and selection process such as advertising, selecting and interviewing.

#### Customer relationships management (CRM)

Activities related to customer relationships management are one of only a few activities outsourced in the marketing area of automobile companies. Outsourcing activities include customer service and support, customer analysis, telemarketing/telesales, call centres and sales force support/management as companies in the automobile industry do not consider these activities to be core. One marketing manager noted that “*OEM manufactures in the automobile sector partly outsource sales force support/management, customer analysis, and telemarketing/telesales activities*”.

#### 4.3 A guiding framework for outsourcing decisions

The following framework has been derived from the empirical data collected in the case studies. This guiding framework should facilitate the outsourcing decision process for middle- and senior managers.

**[Please INSERT: Table 2 Outsourcing framework ABOUT HERE]**

### Discussion and Conclusion

Companies in the automobile industry reduced their core to a few beneficial activities such as research and development and several marketing and manufacturing activities. These findings are in line with the claim of several authors who noted that focusing on core activities can be achieved through outsourcing (Peters and Waterman 1982; Downey 1995; Quinn et al. 1990; Akomode et al. 1998; Embleton and Wright 1998). Companies have moved their most mechanical, repetitive activities such as call centres, payroll or data processing activities to external providers in order to focus on their core activities. However, analytic supporting activities such as programming, recruitment and selection and research and development are outsourced to external providers where in-house expertise is insufficient. Moss Kanter’s (1994) and Quinn and Hilmer’s (1994) argument that companies have already understood and embraced the concept of outsourcing supporting activities is mirrored by the findings. In addition, partial outsourcing of several core activities appears to be common practice due to economic and competitive pressures. For instance, automobile firms outsource several activities within the vehicle design function, which is considered core, and consequently support the argument of Baden-Fuller et al. (2000) who stated that outsourcing core activities can bring about benefits under specific circumstances.

Given the fast-moving industrial environment of automobile companies, combined with increasing customer demand, the rise of new technologies and changeable customer needs, companies have to deploy the resources and expertise of the best-in-class provider. In addition, the vast amount of investment multinational companies annually allocate to their core activities must not be tied up in supporting activities which are clearly not core to the company. These findings are supported by Johnson (1997) and Lonsdale and Cox (1998) who indicated the importance of outsourcing in order to free up investment tied to supporting activities. The automobile sector is facing shorter product lifecycles and consequently companies can no longer afford the capital outlay for new facilities. New manufacturing processes are never perfect, and may improve ten-fold over the first few years of operation. Thus, the planned capacity should be large enough to supply initial demand, while at the same time not so large that it will be underutilised in the future as productivity improves. Outsourcing can remove this production uncertainty. These findings are in line with the opinion of several authors (Fill and Visser 2000; Lonsdale and Cox 2000) who indicate the need to avoid capacity constraints and to shorten time-to-market.

From an expenditure point of view the high investment requirements of automobile production compete with both significant R&D and marketing expenditures. At a time when automobile companies need to continually invest in R&D and marketing costs continue to increase, the additional demands of the production sector serve to further increase the total cost burden. Outsourcing components of production is relatively simple and reduces capital requirements, allowing the conversion of fixed manufacturing costs of to variable costs. This view is supported by Lankford and Parsa (1999) and Ford et al. (1993) who argue that cost savings are among the main motivations for outsourcing activities previously performed in-house. Within the next couple of years, companies in the automotive sector will further outsource supporting activities in areas such as human resources, information technology, finance and accounting and logistics in order to free up investments. Capital intensive core activities such as research and development of automotive products will need the company's investment concentration. Manufacturing of automotive products may further decrease to free up resources and capital as manufacturing activities lose more and more the privilege to be core. The framework produced from the literature and industrial use cases provides guidance to practitioners embarking of further devolvment of activities.

Future research should investigate the phenomena of core competencies and outsourcing, both longitudinally in the automotive industry and also across other sectors. This will allow further development and testing of the guidance framework proposed. Finally, as the business scope of the automobile industry is international, it would be beneficial to replicate this study in other countries to capture and understand the phenomena different cultural settings.

## References

- Akomode, O.J., Lees, B. and Irgens, C. (1998) Constructing customised models and providing information to support IT outsourcing decisions. *Logistics Information Management*, Vol. 11, No. 2, pp.114-127.
- Alexander, M. and Young, D. (1996) Strategic Outsourcing. *Long Range Planning*, Vol. 29, No. 1, pp.116-119.
- Arnold, U. (2000) New dimensions of outsourcing: a combination of transaction cost economics and the core competencies concept. *European Journal of Purchasing & Supply Management*, Vol. 6, pp.23-29.
- Baden-Fuller, C., Targett, D. and Hunt, B. (2000) Outsourcing to outmaneuver: outsourcing re-defines competitive strategy and structure. *European Management Journal*, Vol. 18, No. 3, pp.285-295.
- Barney, J.B. (1991) Firm resource and sustained competitive advantage. *Journal of Management*, Vol. 17, No. 1, pp.99-120.
- Bleeke, J. and Ernst, D. (1991) The way to win in cross-border alliances. *Harvard Business Review*, Vol. 69, No. 6, pp.127-135.
- Calabrese, G. and Erbetta, F. (2005) Outsourcing and firm performance: evidence from Italian automotive suppliers. *International Journal of Automotive Technology and Management*, Vol. 5, No. 4, pp.461-479.
- Chanaron, J.J. (2001) Implementing technological and organizational innovations and management of core competencies: lessons from the automotive industry. *International Journal of Automotive Technology and Management*, Vol. 1, No.1, pp.128-144.
- Cheon, M. J., Grover V. and Teng, J.T.C. (1995) Theoretical Perspectives on the Outsourcing of Information Systems. *Journal of Information Technology*, Vol. 10, No. 4, pp.209-220.

- Downey, J.M. (1995) Risks of outsourcing – applying risk management techniques to staffing Methods. Facilities, MCB University Press, Vol. 13, No.9/10, pp.38–44.
- Embleton, P.R. and Wright, P.C. (1998) A practical guide to successful outsourcing. Empowerment in Organizations, Vol. 6, No. 3, pp.94-106.
- Fill, C. and Visser, E. (2000) The Outsourcing Dilemma: A Composite Approach to the Make or Buy Decision. Management Decision, Vol. 38, No. 1, pp.43-50.
- Ford, D.; Cotton, B.; Farmer, D.; Gross, A. and Wilkinson, I. (1993) Make or buy decisions and their implications. Industrial Marketing Management, Vol. 22, pp.207-214.
- Holcomb, T.R. and Hitt, M.A. (2007) Toward a model of strategic outsourcing. Journal of Operations Management, Vol. 25, pp.464-481.
- Holweg, M. (2008) The Evolution of Competition in the Automotive Industry, in Parry, G. Graves. A.P. Eds. (2008) Build To Order: The Road to the 5-day Car, Springer Verlag, .pp26
- Johnson, M. (1997) Outsourcing in brief. Oxford: Butterworth-Heinemann.
- Kotter, J.P. (1979) Power in management. New York: Amacom.
- Lacity, M. and Hirschheim, R. (1993) Implementing information systems outsourcing: key issues and experiences of an early adopter. Journal of General Management, Vol. 19, No. 1, pp.17-31.
- Lankford, W.M. and Parsa, F. (1999) Outsourcing: a primer. Management Decision, Vol. 37, No. 4, pp.310-316.
- Lei, D. and Hitt, M.A. (1995) Strategic Restructuring and Outsourcing: The Effect of Mergers and Acquisitions and LBOs on Building Firm Skills and Capabilities. Journal of Management; Vol. 21, No. 5, pp.835-859.
- Loh, L. and Venkatraman, N. (1992) Determinants of Information Technology Outsourcing: A Cross-Sectional Analysis. Journal of Management Information Systems, Vol. 9, No. 1, pp.7-24.
- Lonsdale, C. (1999) Effectively managing vertical supply relationships: a risk management model for outsourcing. Supply Chain Management: An International Journal, Vol. 4, No. 4, pp.176–183.
- Lonsdale, C. and Cox, A. (1998) Outsourcing: A Business Guide to Risk Management Tools and Techniques. Boston: Earlsgate Press.
- Lonsdale, C. and Cox, A. (2000) The historical development of outsourcing: the latest fad? Industrial Management & Data Systems, Vol. 100, No. 9, pp.444-450.
- Mills, J.F., Platts, K.W., Bourne, M.C.S.B. and Richards, H. (2002) Competing through competences. Cambridge: University Press.
- Moss Kanter, R. (1994) Collaborative advantage: the art of alliances. Harvard Business Review, Vol. 72, No. 4, pp.96-108.
- Mullin, R. (1996) Managing the outsourced enterprise. Journal of Business Strategy, Vol. 17, No. 4, pp.28-37.
- Oakes, I. and Lee, G. (1999) Between a rock and a hard place: some dilemmas for smaller component suppliers. International Journal of Quality & Reliability Management, Vol. 16, No. 3, pp.252-262.
- Parry, G. and Graves, A.P. (2008) Eds. (2008) Build To Order: The Road to the 5-day Car, Springer Verlag.
- Parry, G., James-Moore, M. and Graves, A. (2006) The Threat to Core Competence Posed by Developing Closer Supply Chain Relationships, International Journal of Logistics: Research and its Applications, Vol. 9, No. 3, pp.295-305

- Penrose, E. (1959). *Theory of the growth of the firm*. Blackwell: Oxford.
- Peters, T. and Waterman, R., 1982. *In Search of Excellence*. New York: Harper & Row.
- Pfeffer, J. and Salancik, G. (1978) *The external control of Organisations*. New York: Harper & Row.
- Prahalad, C.K. and Hamel, G. (1990) *The Core Competence of the Corporation*. *Harvard Business Review*, Vol. 68, No. 3, pp.79–91.
- Quinn, J.B. (1999) *Strategic Outsourcing: Leveraging Knowledge Capabilities*. *Sloan Management Review*, Vol. 40, No. 4, pp.9-21.
- Quinn, J.B. and Hilmer, F.G. (1994) *Strategic Outsourcing*. *Sloan Management Review*, Vol. 35, No.4, pp.43-55.
- Quinn, J.B.; Doorley, T.L. and Paquette, P.C. (1990) *Beyond products: service-based strategy*. *Harvard Business Review*, Vol. 68, No. 2, pp.58-67.
- Roehrich, J.K. (2008) *Outsourcing: Management and Practice within the Automotive Industry*, in Parry, G. Graves. A.P. Eds. (2008) *Build To Order: The Road to the 5-day Car*, Springer Verlag.
- Rumelt, R.P. (1974) *Strategy, Structure, and Economic Performance*. Cambridge, MA: Harvard University Press.
- Rumelt, R.P. (1987) *Theory, Strategy And Entrepreneurship*. In J. D. Teece (Ed.), *The Competitive Challenge: Strategies for Industrial Innovation and Renewal* (pp.137-158) Cambridge, MA: Ballinger.
- Sharpe, M. (1997) *Outsourcing, Organisational Competitiveness, and Work*. *Journal of Labor Research*, Vol. 18, No. 4, pp.535-549.
- Teece, D.J. (1987) *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*. New York: Harper and Row.
- Thompson, J.D. (1967) *Organisations in Action*. New York: McGraw-Hill.
- Thompson Jr., A.A., Strickland III, A.J., Gamble, J.E. (2005) *Crafting and executing strategy: the quest for competitive advantage; concepts and cases*. 14th International edition. New York: McGraw-Hill.
- Venkatesan, R. (1992) *Strategic sourcing: To make or not to make*. *Harvard Business Review*, Vol. 70, No. 6, pp.98-107.
- Walter, A. (2003) *Relationship-specific factors influencing supplier involvement in customer new product development*. *Journal of Business Research*, Vol. 56, No. 9, pp.721-733.
- Wernerfelt, B. (1984). *A resource-based view of the firm*. *Strategic Management Journal*, Vol. 5, No. 2, pp.171–180.
- Williamson, O.E. (1985). *The economic institutions of capitalism*. New York: Free Press.
- Williamson, O.E. (2008). *Outsourcing: transaction cost economics and supply chain management*. *Journal of Supply Chain Management*, Vol. 44, No. 2, pp.5-16.
- Yin, R.K. (2003). *Case study research: Design and methods*. 3<sup>rd</sup> ed. Sage: Thousand Oaks, CA.

	<b>Resource-based view (RBV)</b>	<b>Resource- dependency theory (RDT)</b>	<b>Transaction cost theory (TCT)</b>	<b>Core competencies approach</b>
<b>Possibilities to outsource</b>	Resources which miss some or several attributes such as rare, non-imitable, and non-substitutable	Resources which miss some or several attributes such as rare, non-imitable, and non-substitutable	Activities that do not require assets specific investment	Non core activities (which do not threaten a company's existence)
<b>Main variables &amp; fundamental units of analysis</b>	Resources (internal)	Resources in the external environment	Asset specificity, Frequency, Uncertainty (Transactions)	(Non-) core competencies
<b>Limits to outsourcing</b>	Core competences and activities that do not have these attributes, but cannot be sourced from the market	(Critical) core resources and valued resources	Activities that require specific investment (high specificity)	Core competencies (company's capabilities; unique value for customers)

Table 1 Comparison of outsourcing approaches (adopted from Roehrich, 2008)

Area	Is this considered core competency?	Possible degree of outsourcing
<b>Production and Engineering</b>	Yes	Pressing and stamping activities; consider outsourcing the production of car parts (non-value adding activities)
	No	Production of car parts; electronics of drive trains and interiors; pressing and stamping activities; sub-assembling of complete systems
<b>Design</b>	Yes	Non-innovative parts of design
	No	Specialised design activities
<b>Logistics</b>	Yes	Warehouse management; inventory management
	No	Opportunities to outsourcing completely (but, BTO and JIT may mean that some logistics activities should remain in-house)
<b>IT</b>	Yes	Hardware and application maintenance; standardised activities (e.g. data processing)
	No	Software programming; documentation development and application support
<b>Accounting &amp; Finance</b>	Yes	Repetitive, generic activities
	No	Billing processes; revenue accounting; tax processing; asset management; claims administration; parts of management reporting
<b>Human Resources</b>	Yes	Part of the selection and recruitment process (earlier rounds); generic activities (e.g. payroll processing)
	No	Complete selection and recruitment, payroll processing, pension administration and education and training
<b>CRM</b>	Yes	Parts of non-value adding activities
	No	Customer service and support; customer analysis; telemarketing/telesales; call centres; sales force support/management

Table 2 Outsourcing framework